

This Audit Report includes matters arising out of the performance audits of (a) Operation and Maintenance of Mi series Helicopters in the Indian Air Force and (b) Functioning of the Aviation Arm of the Indian Navy.

I. Operation and Maintenance of Mi series Helicopters in IAF

Helicopters are a key component of defence capability as they make a unique contribution to a wide range of operations. India is a vast country with long borders and possesses some of the world's most inhospitable terrain, be it high mountains in the north, dense jungles in the north-east, deserts of Rajasthan or the Rann of Kutch. Many of these areas are not accessible by road or any other means. It has been the helicopter fleet of the IAF that has provided communication, logistics to these remote areas and played its part in combat role too.

Almost 60 *per cent* of this fleet comprises of Mi series helicopters. A performance audit of Mi series helicopter fleet's operation and maintenance was conducted. The review revealed that, operationally, there are gaps in the existing force levels since the Indian Air Force (IAF) is operating with only 74 *per cent* of the helicopters against its current operational requirements. Besides, a large proportion of the helicopter fleet will reach the end of their operational life in the near future. Further, despite availability of funds and a specific acquisition programme, IAF was unable to induct even a single helicopter between 2002 and 2007. Although IAF's own needs were not being met, 25 helicopters were sent abroad for participation in UN missions and seven helicopters were modified for VIP role without approval of the Government. Efficiency of fleet operations, as indicated by achievement of flying tasks, was an area which requires improvement.

On the repair and maintenance side, audit noted that there were delays in creating repair and maintenance facilities for newly acquired helicopters. At the facilities created, i.e. the designated Base Repair Depot, a large number of allotted overhauls tasks could not be completed due to shortage of spares on account of delayed and inadequate provisioning. Consequently, 210 engines had to be sent abroad for overhaul at a cost of Rs 68.49 crore. Quality of work done by the depot was a matter of concern as several engines overhauled by it had to be prematurely withdrawn. The sub-optimal performance by the maintenance agency, ageing fleet, non-availability of spares also resulted in reduced serviceability and lowered flying efforts at unit level. In fact, the serviceability levels fluctuated between 45 to 75 *per cent* while shortfalls in achievement of flying tasks ranged from 47 to 67 *per cent* for the period 2003 to 2009 in respect of medium lift helicopters. The BRD also utilised 42 *per cent* excess man hours in overhaul of aero engines in comparison to prescribed standard man hours.

All in all, the Mi fleet is performing its tasks in a commendable manner despite the ageing of fleet and numerous challenges in maintaining serviceability. In light of the deficiencies noted, certain recommendations have been made by audit in the report to complement Ministry of Defence and IAF's efforts in ensuring that its helicopter fleet retains its operational edge.

II. Functioning of the Aviation Arm of the Indian Navy

The Aviation Arm of the Indian Navy was established in May 1953 with the commissioning of INS Garuda, a Naval Air Station at Kochi. History of naval aviation, spanning over half a century, has been an illustrious one and today, the Indian Navy is one of the few navies in the world which can boast of an aircraft carrier alongwith a multi-faceted fleet in terms of platforms and technologies. The Naval Aviation Arm contributes to combat capability through carrier-borne strikes against maritime targets in areas beyond the reach of conventional land-based Air Force aircraft, air defence of the fleet, reconnaissance and anti-submarine warfare.

The Aviation Arm holds the key to achieving the "blue water" aspirations of the Indian Navy. As such, a Performance Audit was conducted into the functioning of the Aviation Arm for the period 2003-08, later updated to December 2009. The review indicated weaknesses in the planning, asset management, operation, repair and maintenance activities. There have been significant delays/shortcomings in the preparation and finalisation of the long term acquisition plans. Ad hoc planning resulted in the spill-over of a number of schemes originally envisaged in the X Plan (2002-07) to the XI Plan. The fleet being operated by the Indian Navy, at present, is critically short in terms of numbers and even after potential inductions during the period 2007-12, the Aviation Arm is likely to achieve only 26, 33 and 63 *per cent* of the force levels required in respect of long range reconnaissance, combat and anti-submarine warfare aircraft respectively. Indian Navy's air combat capabilities have been drastically reduced owing to availability of only one carrier, which is almost half a century old and is to be decommissioned in 2012. The Wing is also characterised by ageing and obsolescent assets. Attack capabilities of the already depleted aircraft fleet on-board the carrier have been restricted in the absence of a fully functional radar and limited firing of practice missiles.

Modernisation and upgradation activities have not been as successful as envisaged. Induction of sophisticated equipment to augment capabilities in electronic warfare and provision of Beyond-Visual-Range armament have taken inordinately long periods, first, to be proven and then to be inducted.

Operationally, availability of aircraft has been poor on account of inefficient repair and maintenance as also the need to conserve assets. Serviceability levels were low in comparison to the approved Unit Establishment for combat, ASW and MRSR aircraft and these levels were achieved only by decreasing the flying tasks to ensure that the

assets are not stretched rather than increasing efficiency. At any given point in time a large proportion of the aircraft assets were under repair, maintenance or storage. Further, the age of assets itself has implied that repair and maintenance activities need to be functioning at a very high level. During 2003 – 08, about 80 *per cent* inspections (repair and maintenance) were delayed at the NAY/Base Support Facility.

Thus, the Naval Aviation Arm is operating under numerous constraints and the existing fleet is not geared to effectively meet the increasing maritime needs of the Navy. This report has also incorporated certain key recommendations which the Ministry and Navy may consider for implementation.